

**Amendments to the Specification**

Please replace paragraph [0003] with the following rewritten paragraph:

[0003]

SUMMARY OF THE INVENTION

It is an object of the present invention to provide a method and an apparatus for measuring a diffusion coefficient, or more correctly, an inter-diffusion coefficient, in conductive melts precisely.

Please replace paragraph [0020] with the following rewritten paragraph:

[0020] The diffusion coefficient between the melts X' and Y' can be calculated on the equation of  $L = (Dt)^{1/2}$  (L: diffusion length, D: diffusion coefficient, t: diffusion time (maintaining period of time of the melts)). The diffusion lengths of the melts X' and Y' is measured from the solid solution after the diffusion process.